

February 12, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHIELDALLOY METALLURGICAL CORP.)	Docket No. 40-7102
)	
(Licensing Amendment Request for)	
Decommissioning the)	
Newfield, New Jersey Facility))	

NRC STAFF'S RESPONSE TO REQUEST FOR A HEARING BY THE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

INTRODUCTION

On January 16, 2007, pursuant to 10 C.F.R. § 2.309, the New Jersey Department of Environmental Protection (Petitioner) filed a request for a hearing on the decommissioning plan (DP) submitted by Shieldalloy Metallurgical Corporation, an NRC licensee.¹ The request for a hearing includes seventeen distinct contentions.² For the reasons stated below, the NRC staff (Staff) respectfully submits that the Board should grant the Petitioner's request for a hearing and admit, under certain conditions, eight of the Petitioner's contentions.

BACKGROUND

Between 1955 and June 1998, the Licensee engaged in smelting and alloy production at its plant in Newfield, New Jersey. During those operations the Licensee processed pyrochlore, an NRC-licensed source material containing thorium and uranium. In August 2001, the Licensee notified the NRC that it had stopped using pyrochlore at its Newfield plant and intended to decommission the site. On August 30, 2002, the Licensee submitted an initial DP to the NRC, which the Staff rejected. On October 21, 2005, the Licensee submitted a revised DP

¹ "Petition for a Hearing on the Shieldalloy Metallurgical Corp. Decommissioning Plan" (Jan. 16, 2007) (ADAMS ML070290433) ("Petition").

² The request for hearing ostensibly presents thirty-three contentions, but the Petitioner's sixteen Environmental Contentions are duplicates of its Technical Contentions; thus, there are only seventeen distinct contentions.

(Rev. 1), proposing the use of a possession-only license for long-term control of the site under 10 C.F.R. § 20.1403. The NRC rejected that DP as well. On June 30, 2006, the Licensee submitted a second revised DP (Rev. 1a). "Shieldalloy Metallurgical Corporation Supplement to Decommissioning Plan," June 30, 2006 (ADAMS ML061980092). The NRC found that this second revised DP met the requirements for technical review by the NRC Staff to determine whether the DP complies with 10 C.F.R. § 20.1403, and the Staff is presently conducting that review.

On November 17, 2006, the NRC placed in the *Federal Register* a notice of the opportunity to request a hearing on the Licensee's DP. "Notice of Consideration of Amendment Request for Decommissioning for Shieldalloy Metallurgical Corporation, Newfield, NJ and Opportunity to Request a Hearing," 71 Fed. Reg. 66,986 (Nov. 17, 2006). In response to that notice, the Petitioner timely filed its request for a hearing on January 16, 2007.

DISCUSSION

I. Standing

A governmental entity that requests a hearing before the Commission must demonstrate it has standing to do so. 10 C.F.R. § 2.309(a); see *also* 42 U.S.C. § 2239(a) ("the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding"). To establish standing, a request for a hearing must: (1) identify the petitioner; (2) state the nature of the petitioner's right under the Atomic Energy Act to be made a party to the proceeding; (3) state the petitioner's interest in the proceeding; and (4) state the possible effect of any order or decision in the proceeding on the petitioner's interest. 10 C.F.R. § 2.309(d).

To meet the requirements of § 2.309(d), a petitioner must allege "a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision." *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993), *citing Lujan v. Defenders of Wildlife*, 504 U.S. 555,

561 (1992). In addition to considering whether a petitioner can make such a showing, the Commission has, in materials decommissioning cases such as the present proceeding, applied a “proximity-plus” theory of standing. Under this theory, “a presumption of standing based on geographical proximity may be applied . . . where there is a determination that the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences.” *Id.*, citing *Sequoyah Fuels Corporation* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n. 22 (1994). Whether or not a proposed action carries with it an “obvious potential for offsite consequences,” and, if so, at what distance a petitioner can be presumed to be affected, must be determined “on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source.” *Id.*; see also *Exelon Generation Company, LLC and PSEG Nuclear, LLC* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 580 (2005).

The Petitioner here is the Department of Environmental Protection for the State of New Jersey, the state in which the Licensee’s site is located. The Petitioner is requesting a hearing because it is concerned that the Licensee’s DP will present a long-term radiological hazard and will not protect public health and safety. Petition at p. 1. Given that the Licensee’s site is within the boundaries of the State of New Jersey, and given that the Petitioner is the governmental entity responsible for environmental protection within the state, the Staff agrees that the Petitioner has established standing with respect to the Licensee’s DP. See, e.g., *Power Authority of the State of New York and Entergy Nuclear Fitzpatrick, L.L.C.* (James A. FitzPatrick Nuclear Power Plant and Indian Point Nuclear Generating Unit No. 3), CLI-00-22, 52 N.R.C. 266, (November 27, 2000) (finding governmental entity establishes standing where licensee’s plant is within governmental boundaries and “the plant’s safe

operation and decommissioning is of great concern to the safety and long-term economic well-being of the Town and School District communities”).³

II. Contentions

In addition to establishing standing, a hearing request must include at least one admissible contention. 10 C.F.R. § 2.309(a). For each contention, the petitioner must provide: (1) a specific statement of the issue of law or fact to be raised; (2) a brief explanation of the basis for the contention; (3) a demonstration that the issue raised in the contention is within the scope of the proceeding; (4) a demonstration that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) a concise statement of the alleged facts or expert opinions which support the requestor's position; and (6) sufficient information to show that a genuine dispute exists on a material issue of law or fact, including references to specific portions of the application that the petitioner disputes and the supporting reasons for each dispute or the identification of each failure to include necessary information in the application and the supporting reasons for the petitioner's belief. 10 C.F.R. § 2.309(f)(1).

“The contention rule is strict by design.” *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 433 (2003). The Commission's procedures do “not permit ‘the filing of a vague, unparticularized contention,’ unsupported by affidavit, expert, or documentary support.” *North Atlantic Energy Service Corporation* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999), *quoting Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant), CLI-98-25, 48 NRC 325, 349 (1998). Likewise, Commission practice does not “permit ‘notice pleading,’ with details to be filled in later.” *Id.*

³ The Petitioner seeks automatic standing under 10 C.F.R. § 2.309(d)(2)(i), which provides that a state has standing in a proceeding involving a “facility located within [the state's] boundaries.” However, “facility” has a specific regulatory definition, and in the present case the Licensee's site does not meet that definition. See 10 C.F.R. §§ 2.4 and 50.2. Because the Petitioner meets the standing requirements of 10 C.F.R. § 2.309(d) for other reasons, this issue is immaterial.

A sufficiently detailed and precise contention “focuses the hearing process on real disputes susceptible of resolution in an adjudication [and] helps to assure that . . . hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.” *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334. Precise contentions also place “other parties in the proceeding on notice of the petitioners’ specific grievances and thus gives them a good idea of the claims they will be either supporting or opposing.” *Id.* Proposed contentions also must concern matters within the scope of the proceeding. See *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 118 (1995); *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790 (1985).

Here, the Petitioner sets forth thirty-three contentions, including sixteen Technical Contentions, sixteen Environmental Contentions, and one Miscellaneous Contention. However, the Petitioner in fact raises only seventeen distinct contentions, because its Environmental Contentions are word-for-word copies of its Technical Contentions.⁴ Of the Petitioner’s seventeen distinct contentions, the Staff does not oppose admitting certain portions of eight contentions—Contentions 1–3, 5, 7, and 9–11—under the conditions discussed below. Because many of these contentions raise issues that are closely related, the Staff also recommends that the Board consolidate certain contentions for purposes of the hearing; specifically, the Staff recommends that the Board consolidate Contentions 1 and 11, which address site characterization; and also Contentions 5, 9 and 10, which pertain to dose modeling. The Staff opposes the Petitioner’s remaining nine contentions: Contentions 4, 6, 8 and 12–17.

Before turning to the Petitioner’s contentions, the Staff will briefly address the statutes the Petitioner cites in support of its contentions. The Petitioner correctly refers to the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§ 2011–2297h (2006), under which the NRC has

⁴ Pages 2–89 of the Petition are repeated *exactly* at pages 90–177.

promulgated the decommissioning regulations relevant to this proceeding. However, throughout its contentions the Petitioner also cites both the Low-Level Radioactive Waste Policy Act of 1985 (LLRWPA), 42 U.S.C. § 2011b, *et seq.* (2006), and sections of the Uranium Mill Tailings Radiation Control Act (UMTRCA), 42 U.S.C. § 2011, *et seq.* (2006).

E.g., Petition at pp. 2, 10, 16, 42, 66. Those statutes do not apply in this decommissioning proceeding. The LLRWPA does not apply because the Licensee's site is not, and the DP does not propose that it will become, a facility "for the disposal of radioactive wastes containing byproduct, source and special nuclear material *received from other persons.*" 10 C.F.R. § 61.1(a) (emphasis added). The UMTRCA does not apply because the Licensee used only source material at its site and UMTRCA specifically excludes such material from the Act's coverage. *See* 42 U.S.C. § 2014(e)(4) (defining "byproduct material" subject to Act's coverage as "any discrete source of naturally occurring radioactive material, other than source material . . .").

A. The Staff Does Not Oppose Certain Parts of Contentions 1–3, 5, 7 and 9–11

For the following reasons, the Staff does not oppose certain parts of Contentions 1–3, 5, 7 and 9–11. These contentions address the following issues: site characterization (Contentions 1 and 11), leachability of slag (Contention 2), engineered barrier design (Contention 3), dose modeling (Contentions 5, 9 and 10), and the DP's assertion that residual levels of radiation are as low as reasonably achievable (ALARA) (Contention 7). Below, the Staff will explain what parts of these contentions it deems admissible and inadmissible.

1. Contentions 1 and 11

In Contention 1 the Petitioner argues that the DP does not adequately address physical characterization of the Licensee's site. According to the Petitioner, the soil on the Licensee's site will allow radionuclides to contaminate groundwater. Petition at pp. 2–9. The Petitioner specifically argues that the DP fails to meet regulatory requirements because, in characterizing

its site, the Licensee excluded groundwater pathways, excluded the possibility of surface water contamination, assumed an unrealistic value for hydraulic conductivity, improperly categorized the soil, and failed to conduct adsorption testing or use other appropriate methods to obtain K_d values for the vadose zone and saturated zone layers. Petition at pp. 4–8. The Petitioner supports its arguments with reports from Michael A. Malusis, Ph.D., Assistant Professor of Civil and Environmental Engineering at Bucknell University (Malusis Report); Donna L. Gaffigan, a NJDEP Case Manager responsible for the oversight and coordination of hazardous site remediation (Gaffigan Report); and Steven Spayd, M.P.H., a NJDEP employee with environmental, hydrogeologic and research experience (Spayd Report). Petition at pp. 4–7. The Staff believes that the Petitioner has set forth its arguments with the specificity and support required by 10 C.F.R. § 2.309(f)(1), and it does not oppose admitting these portions of Contention 1.

On the other hand, the Staff opposes Contention 1 to the extent the Petitioner alleges the DP should be rejected because it fails to provide for the permanent isolation of radioactive waste. Petition at p. 2. The Petitioner cites no pertinent authority for this claim. Instead, the Petitioner relies on the LLRWPA and UMTRCA, which are not relevant to this proceeding.

In Contention 11 the Petitioner raises additional issues related to site characterization, this time addressing radiological characterization. The Petitioner claims the DP does not fully address residual radioactivity in surface water and sediment. Petition at pp. 64–65. The Petitioner argues that the DP lacks sufficient data on these issues and notes that the DP relies on a 1992 study when assessing radiation levels in neighboring water systems. Petition at p. 65. The Petitioner argues that current testing is necessary, citing the Gaffigan Report at ¶ 19. *Id.* The Staff believes the Petitioner has met the requirements of 10 C.F.R. § 2.309(f)(1) and does not oppose Contention 11.

Because Contentions 1 and 11 are closely related in that they both address site characterization, either physical or radiological, the Staff proposes that the Board consolidate these two contentions for purposes of the hearing.

2. Contention 2

The Petitioner argues that rainwater may cause slag at the Licensee's site to leach radionuclides into the soil and that the DP fails to account for this possibility.

Petition at pp. 9–15. According to the Petitioner, the Licensee conducted an insufficient number of leachability tests on the slag, failed to test for soil leachability, and failed to consider its own radiological testing, which suggests leaching may occur. Petition at pp. 12, 14–15.

The Petitioner further alleges that the DP fails to consider leaching from sources other than slag, including baghouse dust and building materials. Petition at pp. 11–12. In addition, the Petitioner argues that the Licensee's testing was not of sufficient duration to ensure that leached concentrations represent equilibrium conditions. Petition at p. 13. The Petitioner relies on the Malusis and Gaffigan Reports in support of this contention. Petition at pp. 11–12, 14–15; *citing* Malusis Report at pp. 4–9, Gaffigan Report at ¶ 13.

Given the level of detail in Contention 2 and its specific references to opinions from purported experts, the Staff concludes that this contention meets the requirements of 10 C.F.R. § 2.309(f)(1).

3. Contention 3

The Petitioner argues that the DP is inconsistent in describing the cap the Licensee intends to use to cover radioactive slag and baghouse dust, with some parts of the DP describing the cap as a "geomembrane" that will prevent water infiltration and other parts referring to a cap that will not prevent infiltration. Petition at pp. 17–18, *citing* DP (Rev. 1a) at p. 41. The Petitioner argues that the latter type of cap design is flawed because it will allow rainwater to easily infiltrate underlying radioactive waste. Petition at pp. 15–22. The Petitioner further argues that the cap design is flawed because it does not take into account environmental

conditions specific to southern New Jersey. Petition at p. 19. The Petitioner supports its contention by citing the Malusis Report at pp. 4–9, the Gaffigan Report at ¶ 11, and the Spayd Report at pp. 1–2. The Petitioner also relies on a report from Jennifer Goodman, a NJDEP Research Scientist and Supervisor of NJDEP’s Radiological Assessment Section (Goodman Report); and another report from Timothy Disbrow, a Hazardous Site Mitigation Specialist in NJDEP’s Solid and Hazardous Waste Management Program (Disbrow Report).

Petition at pp. 19–21, *citing* Goodman Report at p. 2 and ¶ 2, Disbrow Report at p. 2.

The Staff does not oppose admitting certain parts of this contention. The Petitioner provides no support for its assertion that Licensee’s cap must prevent rainwater infiltration, and in fact NRC regulations contain no such requirement. The Staff therefore opposes that part of Contention 3. On the other hand, the Petition raises legitimate questions regarding inconsistencies in the DP’s description of cap design. . The Petitioner also argues that the cap design does not take into account local environmental conditions, and the Petitioner supports its argument with reference to reports from several alleged experts. These latter two arguments therefore meet the contention requirements of 10 C.F.R. § 2.309(f)(1).⁵

4. Contentions 5, 9 and 10

These contentions raise arguments related to dose modeling. In Contention 5 the Petitioner argues that the DP obtains inaccurate dose modeling results by excluding groundwater pathways and by failing to consider “all controls fail” and resident farmer scenarios. Petition at pp. 27–42. In Contention 9 the Petitioner likewise argues that the DP excludes certain exposure pathways and neglects an “all controls fail” scenario. Petition at pp. 57–59. Finally, in Contention 10 the Petitioner argues that the DP obtains inaccurate dose modeling results by failing to consider radionuclides leaching from the slag pile and other areas at the Licensee’s site. Petition at pp. 60–64. Contention 10 also alleges certain deficiencies in the

⁵ The Staff notes that whether the cap design is acceptable depends in part on the leachability of slag and baghouse dust, which is the subject of Contention 2.

tests the Licensee used to determine the leachability of slag and baghouse dust.

Petition at p. 62.⁶ The Petitioner relies extensively on the Malusis, Gaffigan, Spayd and Goodman reports throughout these contentions.

The Staff does not oppose admitting these contentions to the extent the Petitioner argues that the DP's dose modeling fails to take into account exposure pathways and underestimates the peak annual TEDE. The Petitioner's arguments on these issues are supported by expert reports, and the arguments meet the specificity requirements of 10 C.F.R. §§ 2.309(f)(1)(v) and (vi). The Staff recommends that the Board consolidate these contentions, however, given that all three contentions raise closely-related issues connected to dose modeling.

On the other hand, the Staff opposes these contentions to the extent the Petitioner argues the DP improperly excludes "all controls fail" and resident farmer scenarios. Considering an all controls fail scenario in dose modeling is not an NRC requirement, and the Petitioner cites no other authority for its claim that the DP must include this scenario. With respect to the resident farmer scenario, the Petitioner cites page 6 of the Goodman Report, which makes the bare assertion that the Licensee should have considered this factor in the DP. The Petitioner fails to explain why the Licensee needed to address this scenario to meet regulatory requirements; thus, the Petitioner fails to support its argument as required by 10 C.F.R. § 2.309(f)(1)(v).

5. Contention 7

According to the Petitioner, the DP fails to comply with 10 C.F.R. § 20.1403(a) because the Licensee has not shown that offsite disposal of radioactive waste will cause net public or environmental harm or that residual radioactivity from onsite disposal is ALARA.

⁶ In Contention 10 the Petitioner notes that the DP is contradictory in its discussion of the engineered barrier, with some sections referring to a geomembrane and others omitting that type of barrier. Petition at p. 61. The Staff does not oppose admitting this issue, but submits that it should be considered in the context of Contention 3, which raises other issues related to cap design.

Petition at pp. 46–54. The Petitioner cites a number of factors it believes the Licensee should have considered in its net public and environmental harm analyses. Petition at pp. 49–51. The Petitioner also alleges that in its ALARA analysis the Licensee should have taken into account drinking water pathways and the costs of complying with regulatory requirements. Petition at p. 49.

The Staff opposes this contention to the extent the Petitioner claims the DP must include net public and environmental harm analyses. The NRC's decommissioning regulations provide that licensees may show either that "further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm *or* were not being made because the residual levels associated with restricted conditions are ALARA." 10 C.F.R. § 20.1403(a) (emphasis added). In this case, the DP relies on an ALARA analysis, not net public or environmental harm analyses. The Petitioner therefore fails to identify an issue material to this proceeding, and its argument must be rejected. 10 C.F.R. § 2.309(f)(1)(iv).⁷

However, the Staff does not oppose those parts of Contention 7 in which the Petitioner argues the Licensee's ALARA analysis should have included drinking water pathways and regulatory costs. The Petitioner has established that these issues are relevant to the ALARA analysis, and the Petitioner provides specific support for its arguments, as required by 10 C.F.R. § 2.309(f)(1).⁸

⁷ The Staff notes the irrelevance of the Petitioner's statement that the NRC has violated its own guidance by conducting public meetings and beginning the Environmental Impact Statement review of the DP without first determining whether the Licensee's site complies with 10 C.F.R. § 20.1403(a). Petition at p. 52. This statement is wholly irrelevant to the present proceeding and rests on a strained interpretation of NUREG-1757, Vol. 2, p. N-6, which states only that a licensee should include certain costs in the benefits of the unrestricted release decommissioning alternative, and which imposes no requirements on the Staff to stay regulatory actions pending review of a DP.

⁸ The Staff would note that the Petitioner's argument regarding drinking water pathways is directly related to Contentions 5, 9 and 10, in which the Petitioner argues the DP improperly excludes such pathways from its dose modeling. To the extent the Board concludes drinking water pathways did not have to be considered in dose modeling, it is not readily apparent why they should be included in the ALARA analysis; alternatively, if the Board finds such pathways should have been included in dose modeling, this is a valid issue for the Board to consider in a contention addressing the DP's ALARA analysis.

B. The Board Should Not Admit Contentions 4, 6, 8 and 12–17.

These contentions pertain to final status survey requirements (Contention 4), the 1000-year dose modeling period (Contention 6), financial assurance (Contention 8), public participation (Contention 14), and the long-term control (LTC) license option (Contentions 12–17). For the following reasons, the Staff opposes each of these contentions.

1. Contention 4 Misstates Regulatory Requirements and Fails to Identify a Material Issue in Dispute

The Petitioner argues that, because the Licensee has not fully characterized its site for radionuclide contamination, the Licensee has failed to present sufficient information for the NRC to assess whether it meets the dose criteria under the LTC rule. Petition at pp. 22–27.

According to the Petitioner, the “NRC is required to review the final status survey as part of the DP to determine if the facility will meet the radiological criteria in the LTR. NUREG-1757 Vol. 1 page 15-9.” Petition at p. 23. The Petitioner alleges a number of specific problems with the Licensee’s survey of its facility, including improper laboratory procedures and the failure to fully account for locations where slag may have been used as landfill. Petition at pp. 24–25.

The Board should reject Contention 4 because the Petitioner fails to identify an issue material to the Board’s determination, as required by 10 C.F.R. § 2.309(f)(1)(iv). The Petitioner asserts repeatedly that the Licensee must fully characterize its facility and conduct a final status survey as part of its DP. Petition at pp. 22–27. However, the Petitioner provides no support for these assertions. The Petitioner does not refer to any NRC regulation requiring a licensee to fully characterize its site or conduct a final status survey at the time it submits a DP.

The Petitioner relies on the guidance at NUREG-1757, Vol 1, page 15-9, but the cited text actually *contradicts* the Petitioner’s position. As the NUREG explains, “NRC regulations require that DPs include a description of the *planned* final radiological survey.” *Id.* (Emphasis added.) The NUREG further explains that the “NRC Staff will review the final status survey *design*, as part of the DP review, to determine whether the survey *design* is adequate for demonstrating

compliance with the radiological criteria for license termination.” *Id.* (Emphases added.) Accordingly, the NUREG statements cited by the Petitioner fail to support its claim that a licensee must fully characterize its site and conduct a final status survey when submitting its DP.

In fact, NRC regulations require only that a licensee submit a “description of planned decommissioning activities” and a “description of the planned final radiation survey” as part of its DP. 10 C.F.R. §§ 40.42(g)(4)(ii), (iv). Here, the Petitioner never addresses the Licensee’s radiation survey plan. Although the Petitioner alleges a number of deficiencies in the Licensee’s final status survey, assuming that the Petitioner intended those allegations to instead apply to the radiation survey plan would require rewriting Contention 4 *sua sponte*. The Petitioner’s repeated references to a final status survey—the Petitioner refers to a final status survey or “full characterization” at least six times in pages 22–25 and never mentions a survey plan—make clear that Contention 4 raises an issue outside the scope of this proceeding.

Because the Petitioner bases Contention 4 on the erroneous assumption that the “NRC is required to review the final status survey as part of the DP,” Petition at p. 23, the Board should reject this contention.

2. Contention 6 Misconstrues Applicable Laws and Regulations and Appears to Impermissibly Challenge the NRC’s Regulations Governing Decommissioning

The Petitioner argues that because the DP applies a dose modeling period of only 1000 years, it violates the LLRWPA, the AEA and the License Termination Rule (LTR). Petition at pp. 42–46. According to the Petitioner, the 1000-year modeling period prescribed in 10 C.F.R. § 20.1401(d) was meant to apply only to short-lived nuclides, not long-lived nuclides like uranium and thorium, which are present at the Licensee’s site. Petition at p. 43, citing 63 Fed. Reg. 39,083 (Response F.7.3). The Petitioner claims that a dose modeling period longer than 1000 years is warranted in the present case, where the DP itself states that

the greatest annual dose occurs past 1000 years and where it is foreseeable that institutional and physical controls will fail. Petition at pp. 44–45.

The Petitioner incorrectly asserts that the 1000-year dose modeling period does not apply to long-lived nuclides. The Petitioner's reference to the *Federal Register* actually contradicts its position. The cited text explains that extending dose calculations past 1000 years is of little value in the decommissioning context:

F.7.3 Response. As previously discussed in the preamble to the proposed rule, the Commission believes use of 1000 years in its calculation of maximum dose is reasonable based on the nature of the levels of radioactivity at decommissioned sites and the potential for changes in the physical characteristics at the site over long periods of time. *Unlike analyses of situations where large quantities of long-lived radioactive material may be involved (e.g., a high-level waste repository) and where distant future calculations may provide some insight into consequences, in the analysis for decommissioning, where the consequences of exposure to residual radioactivity at levels near background are small and peak doses for radionuclides of interest in decommissioning occur within 1000 years, long term modeling thousands of years into the future of doses that are near background may be virtually meaningless.*

. . . .

Radiological Criteria for License Termination (Part II), 62 Fed. Reg. 39,058, 39,083

(July 21, 1997) (emphases added). Moreover, other sections of the final rule that refer to the 1000-year period in no way suggest a different time frame applies to sites containing long-lived radionuclides. See, e.g., 62 Fed. Reg. at 39,070 (“institutional controls should be established by the licensee with the objective of lasting 1000 years to be consistent with the time frame for [TEDE] calculations”).

To the extent the Petitioner is nonetheless arguing that the 1000-year modeling period is inadequate, this contention proposes an impermissible challenge to the regulations.

See *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159 (2001) (holding that a contention presents an impermissible challenge to NRC regulations by seeking to impose requirements in addition to those set forth in the regulations).

The 1000-year period is set forth specifically in 10 C.F.R. § 20.1401(d). To the extent the Petitioner is arguing that the DP nonetheless should have included modeling past 1000 years,

the Petitioner seeks to impose conditions not required by the regulations themselves.

See Duke, Cogema, Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001) (explaining that a contention is inadmissible to the extent it proffers additional or stricter requirements than those imposed by a regulation itself).

3. Contention 8 Fails to Identify a Genuine Dispute with the DP and Lacks Supporting Information

The Petitioner argues that the DP provides insufficient financial assurance.

Petition at pp. 54–57. In particular, the Petitioner argues that the DP fails to adequately consider inflation and the cost of cap maintenance. Petition at p. 56. The Petitioner also alleges that the DP fails to take into account the possibility that the NRC will eventually have to hire a contractor to maintain the cap. Petition at p. 57.

The Petitioner fails to provide support for its argument regarding inflation, as required by 10 C.F.R. § 2.309(f)(1)(v). The DP takes into account inflation by assuming the trust fund established as part of the Licensee’s financial assurance plan will have a real rate of return – the rate of return obtained *after* subtracting inflation – of 1%. DP (Rev. 1a), Table 17.14, p. 112. The Petitioner does not explain why the DP’s 1% rate provides insufficient financial assurance or why that rate fails to comply with the regulatory criteria at 10 C.F.R. § 20.1403(c).

Likewise, the Petitioner does not explain its basis or support for alleging the funds designated for annual cap maintenance are insufficient. The Petitioner states that the amount allocated to annual maintenance is a “mere \$7,440.00,” but the Petitioner does not explain why that amount is insufficient or suggest what the true cost of cap maintenance will be.

The Petitioner compares the annual cost of cap maintenance to costs associated with paperwork review and NRC inspections, but without explaining how this comparison proves the cap maintenance fund fails to meet regulatory requirements. Petition at p. 56. Nor does the Petitioner refer to any studies supporting its claim. The Petitioner’s arguments thus fail to meet the requirements in 10 C.F.R. § 2.309(f)(1)(v).

Finally, the Petitioner incorrectly asserts that the DP fails to take into account hiring a contractor to maintain the Newfield site. Petition at p. 57. The contractor will, as the Petitioner notes, expect a profit for that labor. *Id.* However, the DP provides for both of these possibilities. In Section 15 of Rev. 1a, the Licensee includes “Overhead and Profit” as a separate line item, with \$400 a month designated for that expense. The Petitioner does not address this portion of the DP or in any way suggest that the amount the DP commits to overhead and profit is insufficient. Accordingly, the Petitioner again fails to provide support for its contention as required by 10 C.F.R. § 2.309(f)(1)(v).

Given that the Petitioner fails to provide support for any of its arguments related to financial assurance, and that the references provided by the Petitioner actually contradict its position, the Board should reject Contention 8.

4. Contention 14 Does Not Provide Support for its Claim that the DP Violates 10 C.F.R. § 20.1403(d)

The Staff will address Contention 14 next because, of Contentions 12–17, it is the only contention that does not in some form challenge the NRC’s LTC license policies. Rather, in Contention 14 the Petitioner argues that the Licensee “failed to adequately elicit or consider public input on the decommissioning proposal.” Petition at pp. 73–79. The Petitioner cites 10 C.F.R. § 20.1403(d), which requires a licensee to document how it “sought and incorporated” the advice of community members and institutions in the DP. According to the Petitioner, the Licensee failed to meet regulatory requirements in several matters related to the functioning of the Site Specific Advisory Board (SSAB) and by failing to acknowledge the “strong public opposition” to the DP. Petition at pp. 75–78.

The Board should reject the Petitioner’s claim that the Licensee failed to provide the SSAB with sufficient information on institutional controls, slag characterization, cap design, and financial assurance. Petition at pp. 75–76. The Petitioner does not explain what information it believes was lacking that would be needed for there to be “sufficient” information under

10 C.F.R. § 20.1403(d). Nor does the Petitioner explain in any detail why the information the Licensee *did* provide the SSAB was lacking. The Petitioner suggests that with additional information the SSAB could have given better-informed advice regarding certain issues, but that argument could be made regardless of how much information the Licensee provided to the SSAB. The Petitioner does not explain why the Licensee's efforts failed to meet the requirements in 10 C.F.R. § 20.1403(d). For these reasons, the Petitioner fails to comply with 10 C.F.R. § 2.309(f)(1)(vi), which requires that contentions of omission both identify the information a petitioner believes a licensee should have provided and give the supporting reasons for the petitioner's belief.

The Petitioner's claim that the DP fails to take into account "strong public opposition" is particularly lacking in support where the DP includes transcripts or summaries of all four SSAB meeting as attachments to the DP. DP (Rev. 1a) at § 163.3, p. 161 and n.108. Further, the Licensee attached to the DP letters from New Jersey state officials expressing opposition to the DP. *Id.* at Appendix I. The Petitioner does not explain what additional steps the Licensee was required to take to comply with 20 C.F.R. § 20.1403(d). The Petitioner therefore fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi) in that it does not provide supporting reasons for its beliefs.

Accordingly, the Staff opposes Contention 14 because the Petitioner provides no support for its claims that the Licensee failed to elicit public opinion and incorporate that opinion in its DP.

5. The Board Should Reject Contentions 12–13 and 15–17, All of Which Challenge the NRC's LTC License Policies

In each of these contentions the Petitioner challenges the NRC's decision to provide for a long-term control (LTC) license option under which a licensee can seek to establish that it meets the restricted use provisions of the license termination rule (LTR) in 10 C.F.R. Part 20, Subpart E. Among the Petitioner's arguments: (1) the LTR's restricted use provisions are not

meant to apply to long-lived radionuclides such as those present at the Licensee's site (Contentions 12 and 15); (2) allowing licensees to amend their licenses under the LTC option conflicts with NRC regulations requiring license termination upon decommissioning (Contention 13); (3) the LTC license option violates NRC policy by promoting the creation of legacy sites (Contention 16); and (4) the NRC must engage in rulemaking before it can provide an LTC license option (Contention 17). These arguments are without merit and appear to rest on a misunderstanding of the NRC regulations and policies related to the LTC license option.

Early in the development of the LTR the Commission recognized that, for a limited number of licensees, it may be unduly burdensome for them to meet the regulatory requirements for unrestricted release. Thus, the Commission provided that in narrowly defined circumstances a licensee may decommission a site under the LTR by using institutional controls to restrict a site's future use. *Id.* at p. 39,088. This was described as a "restricted release" or "restricted use" approach. *Id.* at pp. 39,059, 39,068.

In 2006, the Commission addressed the use of an LTC license as a form of institutional control and concluded an LTC license may be used in certain cases for the decommissioning of restricted use sites:

The Commission has approved the staff's recommendation to revise the decommissioning guidance to state: (1) onsite disposals of radioactive material under 10 CFR 20.2002 that result in doses no greater than a few millirem per year are generally acceptable to staff and that other dose criteria will be evaluated based on specific conditions, and; (2) *when a Long Term Control - Possession Only (LTC) license is used to provide the institutional control for restricting future site use, the policy is to change an operating license to an LTC license by amendment, in lieu of terminating the operating license and issuing an LTC license.*

SRM-SECY-06-0143 (emphasis added).⁹

As a general matter, in arguing that the LTC license option conflicts with NRC regulations, the Petitioner overlooks the Commission's endorsement of the LTC policy.

⁹ Staff Requirements - SECY-06-0143 - Stakeholder Comments and Path Forward on Decommissioning Guidance to Address License Termination Rule Analysis Issues (September 19, 2006) (ADAMS ML062620515).

The Petitioner fails to refer to any authoritative legal or factual basis to show that there is a genuine issue of law or fact with respect to the general applicability of the LTC license option. See 10 C.F.R. § 2.309(f)(1)(vi) (stating that petitioner must provide “sufficient information to show a genuine issue exists with the applicant/licensee on a material issue of law or fact”).

a. Contentions 12 and 15

These two contentions raise essentially the same issue. In Contention 12 the Petitioner argues that the LTC license violates the LLRWPA, the AEA, and “the intent of the LTR” because it inadequately protects public safety and health when applied to sites containing long-lived radionuclides. Petition at pp. 66–69. In Contention 15, the Petitioner argues that the LTC license conflicts with the NRC’s decommissioning regulations because the intent of those regulations is to limit the release of sites containing long-lived radionuclides to unrestricted use. Petition at pp. 79–81.

The Board should reject both contentions because the Petitioner fails to provide support for its claim that applying the LTC license to sites involving long-lived radionuclides is inconsistent with statutory or regulatory requirements. The Petitioner therefore fails to comply with 10 C.F.R. § 2.309(f)(1)(v), which requires that a petitioner refer to specific sources or documents supporting its contention. The Staff would first note, again, that the Petitioner mistakenly assumes the LLRWPA is relevant to this proceeding. With respect to its claim that the LTC license conflicts with the AEA, the Petitioner cites no authority for its argument except the LTR. What remains, then, is the Petitioner’s argument that the LTC license conflicts with the LTR.

With respect to the claim that the LTC license itself is inconsistent with the LTR, as explained above, the LTC license is a form of a possession-only license that the Commission established for the long-term control of a restricted use decommissioning site under the LTR. If an LTC license is used as the institutional control and all other LTR requirements are met, the

Commission considers a facility to be decommissioned. Accordingly, the Commission has already determined that the LTC license is consistent with the LTR.

The Petitioner also claims that the LTC is inconsistent with the LTR as applied to sites with long-lived radionuclides. However, the Petitioner does not provide any legal basis for its argument. Nor does the Petitioner address regulatory history stating that sites containing long-lived radionuclides are, in fact, candidates for restricted release. For example, the Statement of Considerations (SOC) published with the LTR explains:

In a limited number of cases, in particular those involving large quantities of uranium and thorium contamination, the presence of long-lived nuclides at decommissioned sites will continue the potential for radiation exposure beyond the 100-year period. More stringent institutional controls will be required in these situations, such as legally enforceable deed restrictions and/or controls backed up by State and local government control or ownership, engineered barriers, and Federal ownership, as appropriate.

. . . .

The Commission believes, based on the discussion in this section on the viability of controls and on the provisions for financial assurance and for a "cap," described in Sections IV.B.3.4 and IV.B.3.5, that the provision for restricted use and institutional controls will provide a high level of assurance that public health and safety will be protected. Licensees seeking restricted use will be required to demonstrate, to NRC's satisfaction, that the institutional controls they propose are comparable to those discussed above, are legally enforceable, and are backed by financial assurance. Licensees will also be required to demonstrate that the cap will be met. The Commission believes that the provision for restricted use should be retained in the final rule.

62 Fed. Reg. at 39,070 (emphases added). Thus, the SOC rebuts the Petitioner's claim that the "intent of the decommissioning regulations is to limit the release of sites containing long-lived nuclides to unrestricted release." Petition at p. 79. Although the Petitioner notes that "termination of a license for unrestricted use is preferable," *Id.*, the Petitioner fails to take into account other statements in the SOC in which the Commission explicitly acknowledges that sites containing long-lived nuclides are candidates for restricted use.

The Board should reject Contentions 12 and 15 given that the Petitioner fails to provide any support for its claim that extending an LTC license to a site with long-lived nuclides would violate statutory or regulatory requirements.

b. Contention 13

The Petitioner alleges that the Licensee's DP conflicts with the NRC's decommissioning regulations. Petition at pp. 69–73. However, the Petitioner's real argument is with the LTC license option itself. The Petitioner argues that, by allowing a licensee to decommission by amending its current license to an LTC license, the NRC would violate regulatory provisions requiring termination of a license upon decommissioning. Petition at p. 69.

The Petitioner's argument overlooks critical regulatory language. The NRC's regulations define "decommission" as follows:

Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that *permits*—(1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and the termination of the license.

10 C.F.R. § 20.1003 (emphasis added). Under the definition's plain language, a facility may be decommissioned when residual radioactivity is reduced to a level that "permits" release and termination of the license. Consistent with this language, the Staff considers a site with an LTC license to be decommissioned when all applicable restricted use requirements in the LTR are met, even though the license is not thereafter terminated. It was this interpretation that the Commission approved approximately six months ago in SRM-SECY-03-0069.¹⁰

The Petitioner also argues that the DP is flawed because it "models the TEDE based upon only a 1000-year period regardless of the duration of the radiological hazard" and because "when realistic assumptions are used . . . modeling indicates a TEDE of 1718 mRem per year at year 800." Petition at p. 71. These arguments simply repeat claims the Petitioner has already made under other contentions. Specifically, in Contention 6 the Petitioner challenges the 1000-year does modeling period, and in Contentions 1–3, 5, 9 and 11 the Petitioner objects to

¹⁰ Staff Requirements - SECY-03-0069 - Results of the License Termination Rule Analysis (November 17, 2003) (ADAMS ML033210595).

the Licensee's dose modeling. The Staff respectfully refers the Board to its responses to those contentions.¹¹

c. Contention 16

The Petitioner argues that the LTC license option violates NRC policies against the promotion of legacy sites. Petition at pp. 81–89. In support of this argument the Petitioner cites SECY-03-0069 at p. 3 and SECY-06-0143 at pp. 5–7. Petition at pp. 82–84. The Petitioner claims that, as set forth in NUREG-1757, the LTC license option conflicts with these prior policy statements and for that reason the LTC policy is arbitrary and capricious. *Id.* The Petitioner raises two additional arguments related to NUREG-1757, claiming that a 1000-year dose modeling period for long-lived radionuclides is inadequate and that the NUREG underestimates the amount of financial assurance required of a licensee. Petition at pp. 85–89.

The Board should reject this contention because the Petitioner fails to provide support for its position, as required by 10 C.F.R. § 2.309(f)(1)(v). The SECY papers the Petitioner cites actually contradict its position that the LTC license option represents an arbitrary shift from prior Commission policy. Rather than rejecting the LTC license option, those papers *endorse* the LTC license as being available if a licensee has not been able to arrange other acceptable institutional controls or independent third-party arrangements for a site.

The Petitioner also fails to provide any support for its claim that the LTC option will impermissibly lead to the promotion of legacy sites. The Staff addressed this issue specifically in SECY-06-0143.¹² As explained in that paper, when developing the LTC policy the Staff took into account stakeholder comments that the LTC license would lead to the proliferation of restricted use sites. The Commission accepted the availability of LTC licenses in SRM-06-0143. The Petitioners do not refer to any regulatory requirement as stating that a

¹¹ The Petitioner acknowledges that its dose modeling arguments are “discussed in greater detail in Contention 5.” Petition at p. 71.

¹² Stakeholder Comments and Path Forward on Decommissioning Guidance to Address License Termination Rule Analysis Issues (July 5, 2006) (ADAMS ML061010367).

validly requested LTC license may be denied out of general concern for the promotion of legacy sites. Thus, Contention 16 should be rejected as lacking any supporting foundation demonstrating a true issue for litigation under 10 C.F.R. § 2.309.

The Board should likewise reject the Petitioner's claims that the 1000-year dose modeling period and financial assurance requirements in NUREG-1757 are inadequate. Petition at pp. 85–89. To the extent the Petitioner is challenging NUREG-1757 itself, the Petitioner does not present an admissible contention because NUREGs “by their very nature, serve merely as guidance . . . [and] nonconformance with such guides does not equate to noncompliance with the regulations.” *The Curators of the University of Missouri*, CLI-95-1, 41 NRC 71, 98 (1995). To the extent the Petitioner is challenging the Licensee's reliance on NUREG-1757 to meet regulatory requirements, on the other hand, the Petitioner is merely repeating arguments the Staff has previously addressed in its responses to Contentions 6 and 8, and the Staff respectfully refers the Board to its responses to those contentions.

Because the Petitioner fails to support its arguments as required by 10 C.F.R. § 2.309(f)(1)(v), the Board should reject Contention 16.

d. Contention 17

The Petitioner argues that the NRC cannot apply the LTC license until it promulgates rules or regulations establishing the license's terms and conditions. Petition at pp. 178–81. The Petitioner relies on section 182a of the AEA, 42 U.S.C. § 2232(a), which provides, “Each application for a license hereunder shall be in writing and shall specifically state such information as the Commission, by rule or regulation, may determine to be necessary. . . .” Petition at p. 178. According to the Petitioner, the NRC has failed to follow this mandate and has impermissibly used NUREG-1757, a guidance document, to set forth the information an applicant should provide when seeking to obtain an LTC license. Petition at p. 180.

This contention is without support and should be rejected. 10 C.F.R. § 2.309(f)(1)(v). A licensee seeking to use the LTC option is not applying for a new license, but, through its DP,

is applying for license amendment. As the Commission explained in SRM-SECY-06-0143, “when a Long Term Control - Possession Only (LTC) license is used to provide the institutional control for restricting future site use, *the policy is to change an operating license to an LTC license by amendment.*” (Emphasis added.) Because a DP’s request for an LTC license seeks the amendment of an existing license, rather than the issuance of a new license, the Petitioner’s reliance on section 182a of the AEA is misplaced. In fact, the Commission’s language in issuing its SRM on SECY-06-0143 confirms the view that the LTC license is a valid mechanism under 10 C.F.R. § 20.1403.

Because the Petitioner cites no authority for its argument that the LTC license option requires rulemaking under the AEA, the Board should reject Contention 17.

CONCLUSION

The Petitioner has established standing and, in its request for hearing, the Petitioner sets forth admissible contentions. The Board should admit the parts of Contentions 1–3, 5, 7 and 9–11 specified above. The Board should not admit the remaining parts of those contentions, or the Petitioner’s remaining contentions, Contentions 4, 6, 8 and 12–17.

Respectfully Submitted,

/RA by Michael J. Clark/

Michael J. Clark
Counsel for the NRC Staff

Dated at Rockville, Maryland
this 12th day of February, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
SHIELDALLOY METALLURGICAL CORP.)	Docket No. 40-7102
)	
(Licensing Amendment Request for)	
Decommissioning the)	
Newfield, New Jersey Facility))	

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO REQUEST FOR A HEARING BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION" in the above captioned proceeding have been served on the following persons by deposit in the United States Mail; through deposit in the Nuclear Regulatory Commission internal mail system as indicated by an asterisk(*); and by electronic mail as indicated by a double asterisk (**) on this 12th day of February, 2007.

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